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and

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Patent claims

1. A device for braiding a core (12) with a braided
5 structure consisting at least largely of heavy-duty
fibers and having regions with a differing number
of layers, with a braiding machine, a linear
displacing apparatus (10) between the core (12) and
the braiding machine and with a guiding apparatus
for temporarily placing at least one element (32,
10 34, 36, 38) onto the uppermost layer of the braided
structure in an automated manner, the at least one
element having on the end face a defined stiff edge
(32a, 38a).
- 15 2. The device as claimed in claim 1, characterized in
that the guiding apparatus has at least one
horizontally and vertically movable arm (24, 26,
28, 30) acting on the at least one element (32, 34,
36, 38).
- 20 3. The device as claimed in claim 1 or 2,
characterized in that the at least one element (32,
34, 36, 38) is arranged in such a way that it
encloses the core.
- 25 4. The device as claimed in claim , characterized in
that the element (32, 34, 36, 38) comprises at
least two separate shells, each shell being
positionable by an arm (24, 26, 28, 30) of the
30 guiding apparatus.
5. The device as claimed in claim , characterized in
that the at least two shells (32, 34, 36, 38) can

be braced against the core (12) by means of a clamping element (48, 54) acting circumferentially on them.

- 5 6. The device as claimed in one of claims 1 to 5, characterized by at least one further clamping apparatus (40) with a number of stem elements (41a, 41b, 41c, 41d) arranged in an annular manner around the core (12).
- 10 7. The device as claim in claim 6, characterized in that the stem elements (41a, 41b, 41c, 41d) have needles on the end faces.
- 15 8. The device as claimed in claim 7, characterized in that the at least one clamping apparatus (40) can be made to move horizontally along the core (12) and has means for radially moving the stem elements (41a, 41b, 41c, 41d).
- 20 9. The device as claimed in claim 8, characterized in that the means for radial movement are pneumatic cylinders.
- 25 10. The device as claimed in one of claims 6 to 9, characterized in that the at least one clamping apparatus (40) is arranged in a horizontally displaceable manner.
- 30 11. A method for producing a braided structure having regions with a differing number of layers, the braided structure being braided in a number of layers onto a core (12) by a braiding machine and the core (12) being moved in relation to the
- 35 braiding machine and, to create the differing numbers of layers by reversing the relative movement of the core (12) at a reversal point, at least one layer being doubled over to form a double

- layer, in that this layer is held in the region of its doubling-over when the relative movement is reversed, characterized in that an element (32, 38) with a defined, stiff doubling-over edge (32a, 38a) is brought in an automated manner onto the layer to be doubled over at a defined point and this layer is further braided over the doubling-over edge (32a, 38a) after reversal of the relative movement of the core (12).
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12. The method as claimed in claim 11, characterized in that, in a further step, the doubled-over layer is fixed in an automated manner and the element (32, 38) with the doubling-over edge (32a, 38a) between the double layer formed is pulled out and the layer is braided back to the starting point.
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13. The method as claimed in claim 11 or 12, characterized in that, to complete the method, at least one layer is braided in such a way as to cover the entire length of the core (12).
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14. The method as claimed in one of claims 11 to 13, characterized in that the individual layers are interconnected by tufting.
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